SPECIFICATION AMENDMENTS

Please amend the paragraph that beings on page 2, line 6 of the specification, as follows:

A conventional technique is to measure changes in the tape magnetic spacing (also known as magnetic separation) relative to an initial reference condition. This is done using the well known Wallace Spacing Loss relationship to calculate the magnetic spacing change from measured amplitudes of readback signals derived from a series of tones that are prerecorded on the media. A disadvantage of using prerecorded tones to calculate magnetic spacing change is that the recorded tone information can decay over time such that calculation errors are introduced. In addition, read heads must be accurately aligned to the tracks containing the tones during readback. A further disadvantage of the conventional technique is that the magnetic spacing change calculation does not elucidate the tribological factors that go into creating the change. In particular, as shown in Fig. 1B, the change in magnetic spacing determined by the Wallace Spacing Loss relationship will not indicate change in true fly height if the read sensor (or the write coil element) becomes recessed from the tape bearing surfaces. In that case, the magnetic spacing (MS) is due to a combination of fly height (FH) and recession (R), as follows: MS = FH + R. Relatedly, the fly height is the difference between the magnetic spacing and the recession, as follows: $FH = M\underline{S}\cancel{R} - R$. A change in magnetic spacing is likewise due to changes in fly height and recession, as follows: $\Delta M\underline{S} = \Delta FH + \Delta R$. An additional consideration when using the Wallace Spacing Loss relationship is that a calculated change in magnetic spacing could be due to a change in the surface roughness and/or compliance of the tape medium, which produces a change in fly height alone.

Please amend the paragraph that beings on page 12, line 21 of the specification, as follows:

Regardless of whether an FFT algorithm or a spectrum analyzer is used to characterize the spectral pattern of the noise signals, the subtracted outputs should contain signal amplitude values for at least two characteristic frequency bands. These amplitude values are used as inputs to a magnetic spacing change calculation, which is performed by the data processing component 16. ~~As described by way of background above, conventional~~Conventional magnetic spacing processing is based on the recognition that changes in signal losses due to head/media separation are different for different frequencies. In particular, for a given increase in magnetic spacing, high frequency signal components fall off more than low frequency components.

Please amend the paragraph that beings on page 15, line 6 of the specification, as follows:

The sampling points where each of the values used in the plotting the graph of Fig. 9 are identified in Fig. 8 by the notations L_1, L_2 . . . L_8. It will be seen that as the frequency (f) approaches the high frequency limit imposed by the read gap length, the media noise signal drops off and approaches the electronic noise. ~~Thus, the~~The shift between initial condition and subsequent wear media noise power spectra must also vanish. Thus, L_1, L_2, L_3, L_4, L_5, and L_6 appear to grow while L_7 and L_8 appear to get smaller as the cut-off frequency is approached. Correcting for electronic noise will take care of this issue.